

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (CURRENTLY AMENDED) A process for microencapsulating an active principle by coacervation, ~~which consists of~~ wherein the process comprises:

-the controlled desolvation or coacervation of a polymer dissolved in an organic solvent containing said active principle, said coacervation being induced by addition of a nonsolvent and being reflected by the deposition of the polymer at the surface of the active principle, and then

-the curing of the polymer deposit by addition of a curing agent, said curing being reflected by the formation of a continuous film coating said active principle,

~~characterized in that~~ wherein

-the solvent for the polymer is a nonchlorinated organic solvent with a boiling point of between 30°C and 240°C and a relative dielectric permittivity of between 4 and 60, ~~advantageously chosen from ethyl acetate, N-methylpyrrolidone, methyl ethyl ketone, acetic acid and propylene carbonate, and mixtures thereof,~~

-the nonsolvent is an alcohol or a ketone containing 2 to 5 carbon atoms and ~~preferably 2 or 3 carbon atoms, in particular ethanol ($\epsilon=24$), 2-propanol ($\epsilon=18$), 1,2-propanediol (ϵ between 18 and 24) and glycerol ($\epsilon=40$), or methyl ethyl ketone ($\epsilon=18$),~~

-the curing agent is ~~chosen from water~~[[,]]; alcohols containing 1 to 4 carbon atoms, on condition that the curing agent is an alcohol that is different than the nonsolvent[[,]]; ~~and~~ or mixtures thereof.

2. (CURRENTLY AMENDED) The process as claimed in claim 1, ~~characterized in that~~ wherein the nonsolvent and the curing agent are ~~chosen~~, respectively, ~~from the following pairs:~~ (1) 1,2-propanediol and 2-propanol, (2) glycerol and 1,2-propanediol, (3) glycerol and 2-propanol, or (4) 2-propanol and 1,2-propanediol.

3. (CURRENTLY AMENDED) The process as claimed in claims 1 ~~and 2~~, ~~characterized in that~~ the polymer is a biodegradable polymer with a weight-average molecular mass (Mw) of between 10,000 and 90,000 g/mol, ~~preferably between 15,000 and 50,000 g/mol~~, and with a polydispersity index (Ip) of between 1 and 3.5 ~~and preferably between 1.5 and 2.5~~.

4. (CURRENTLY AMENDED) The process as claimed in claim 3, ~~characterized in that~~ wherein the polymer is a lactic acid polymer (PLA) or a polymer of lactic acid and of glycolic acid (PLAGA).

5. (CURRENTLY AMENDED) The process as claimed in claim 4, ~~characterized in that~~ wherein the polymer is a PLAGA such that Mw is between 15,000 and 25,000, ~~preferably equal to 17,500~~, Ip is between 1 and 2, ~~and preferably equal to 1.6~~, and the percentage of glycolic acid is less than 30%, ~~preferably equal to 25%~~.

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6. (CURRENTLY AMENDED) The process as claimed in one of claims 1 to 5, ~~characterized in that~~ wherein the polymer concentration in the solvent is between 1 and 10% (w/v) ~~and preferably about 4% (w/v).~~
7. (CURRENTLY AMENDED) The process as claimed in ~~one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the nonsolvent/- solvent ratio by volume is between 1/2 and 1/1.
8. (CURRENTLY AMENDED) The process as claimed in ~~one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the coacervation temperature is less than the glass transition temperature of the polymer, ~~preferably less than or less than or equal to 25°C, preferably less than 4°C and more preferably equal to 4°C.~~
9. (CURRENTLY AMENDED) The process as claimed in ~~one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the curing agent also contains a surfactant, the concentration of said surfactant in the curing agent being between 0.1 and 10% (v/v).
10. (CURRENTLY AMENDED) The process as claimed in ~~one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the surfactant is a sorbitan ester, ~~for example Tween[®]-80 or polyvinyl alcohol.~~
11. (CURRENTLY AMENDED) The process as claimed in ~~one of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the curing agent/solvent ratio by volume is between 5/1 and 180/1 ~~and preferably between 15/1 and 120/1.~~

12. (CURRENTLY AMENDED) The process as claimed in ~~one of the~~
~~preceding claims~~ claim 1, characterized in that wherein the microspheres are cured with
stirring at a speed of between 500 and 1500 rpm.

13. (CURRENTLY AMENDED) The process as claimed in ~~one of the~~
~~preceding claims~~ claim 1, characterized in that wherein the curing temperature is less
than or equal to 25°C, ~~preferably less than 4°C and more preferably less than or equal~~
~~to 0.5°C.~~

14. (CURRENTLY AMENDED) The process as claimed in ~~one of the~~
~~preceding claims~~ claim 1, characterized in that wherein when the active principle forms
a dispersion in the polymer solution, the solvent and the nonsolvent have a viscosity
that is high enough to stabilize the active principle.

15. (CURRENTLY AMENDED) The process as claimed in ~~one of the~~
~~preceding claims~~ claim 1, characterized in that wherein the active principle is dispersed
by ultrasound to form a dispersion in the polymer solution, and the coacervation is
performed with gentle stirring, ~~preferably of magnetic or mechanical type.~~

16. (CURRENTLY AMENDED) The process as claimed in ~~one of the~~
~~preceding claims~~ claim 1, characterized in that wherein the particle size of the active
principle is between 1 and 50 micrometers and ~~preferably between 5 µm and 30 µm.~~

17. (CURRENTLY AMENDED) The process as claimed in ~~one of the~~
~~preceding claims~~ claim 1, characterized in that wherein the solvent is N-
methylpyrrolidone, the nonsolvent is ethanol and the curing agent is water.

18. (CURRENTLY AMENDED) The process as claimed in ~~one of claims 1 to 16~~ claim 1, ~~characterized in that~~ wherein the solvent is ethyl acetate.

19. (CURRENTLY AMENDED) The process as claimed in claim 18, ~~characterized in that~~ wherein the solvent is ethyl acetate, the nonsolvent is 2-propanol and the curing agent is water.

20. (CURRENTLY AMENDED) The process as claimed in claim 18 or 19, ~~characterized in that~~ wherein the polymer is a 75:25 PLAGA such that the Mw is between 15,000 and 20,000 ~~and preferably equal to 17,500, and the Ip is between 1 and 2 and preferably equal to 1.6.~~

21. (CURRENTLY AMENDED) The process as claimed in ~~one of claims 1 to 16~~ claim 1, ~~characterized in that~~ wherein the solvent is acetic acid, the curing agent is water and the polymer is a 50:50 PLAGA.

22. (NEW) The process as claimed in claim 1, wherein the solvent for the polymer is selected from ethyl acetate, N-methylpyrrolidone, methyl ethyl ketone, acetic acid and propylene carbonate, and mixtures thereof.

23. (NEW) The process as claimed in claim 1, wherein the nonsolvent is an alcohol or a ketone containing 2 to 3 carbon atoms.

24. (NEW) The process as claimed in claim 23, wherein the nonsolvent is ethanol ($\epsilon=24$), 2-propanol ($\epsilon=18$), 1,2-propanediol (ϵ between 18 and 24) and glycerol ($\epsilon=40$), or methyl ethyl ketone ($\epsilon=18$).

25. (NEW) The process as claimed in claim 3, wherein the polymer is a biodegradable polymer with a weight-average molecular mass (Mw) of between 15,000 and 50,000 g/mol.

26. (NEW) The process as claimed in claim 5, wherein the polymer is a PLAGA such that Mw is equal to 17,500.

27. (NEW) The process as claimed in claim 5, wherein the polymer is a PLAGA such that I_p is equal to 2.6.

28. (NEW) The process as claimed in claim 5, wherein the polymer is a PLAGA such that the percentage of glycolic acid is equal to 25%.

29. (NEW) The process as claimed in claim 6, wherein the polymer concentration in the solvent is about 4% (w/v).

30. (NEW) The process as claimed in claim 8, wherein the coacervation temperature is less than or equal to 25°C.

31. (NEW) The process as claimed in claim 30, wherein the coacervation temperature is less than 4°C.

32. (NEW) The process as claimed in claim 31, wherein coacervation temperature is equal to -4°C.

33. (NEW) The process as claimed in claim 10, wherein the surfactant is polyoxyethylene 20 oleate or polyvinyl alcohol.

34. (NEW) The process as claimed in claim 11, wherein the curing agent/solvent ration by volume is between 15/1 and 120/1.

35. (NEW) The process as claimed in claim 13, wherein the curing temperature is less than 4°C.

36. The process as claimed in claim 35, wherein the curing temperature is less than or equal to 0.5°C.

37. (NEW) The process as claimed in claim 15, wherein the coacervation is performed with a gentle stirring of magnetic or mechanical type.

38. (NEW) The process as claimed in claim 16, wherein the particle size of the active principle is between 5 µm and 30 µm.

39. (NEW) The process as claimed in claim 20, wherein the polymer is a 75:25 PLAGA such that the Mw is equal to 17,500.

40. (NEW) The process as claimed in claim 20, wherein the polymer is a 75:25 PLAGA such that the Ip is equal to 1.6.